



NIH Public Access

Author Manuscript

Am J Hosp Palliat Care. Author manuscript; available in PMC 2015 March 01.

Published in final edited form as:

Am J Hosp Palliat Care. 2014 March ; 31(2): 126–131. doi:10.1177/1049909113476132.

Commonly Prescribed Medications in a Population of Hospice Patients

Leah Sera, PharmD¹, Mary Lynn McPherson, PharmD, BCPS, CPE¹, and Holly M. Holmes, MD²

¹ Department of Pharmacy Practice and Science, The University of Maryland School of Pharmacy, Baltimore, USA

² Department of General Internal Medicine, The University of Texas MD Anderson Cancer Center, USA

Abstract

Although much attention has been placed on appropriate symptom management at the end of life, little is known about the medications actually prescribed to people in hospice care. The purpose of this study was to determine the most commonly prescribed medications in a population of hospice patients. A retrospective review of a patient information database was conducted. The 6 most common drugs (acetaminophen, morphine, haloperidol, lorazepam, prochlorperazine, and atropine) were included in emergency kits provided to patients at admission. Opioid and nonopioid analgesics, anxiolytics, anticholinergics, and antipsychotics were the most commonly prescribed pharmacologic classes. This description of prescribing practices could be useful in creating more informed care plans, educating health care personnel, and anticipating the changing medication needs of patients as they enter hospice care.

Keywords

hospice; medication therapy; end of life; polypharmacy; palliative care

Introduction

Patients admitted to hospice care due to advanced illness are generally older, have a high burden of comorbid conditions,¹ and are at risk of polypharmacy and adverse drug reactions.² Patients with advanced illness frequently require intensive medication management of both chronic conditions and symptoms associated with end-stage disease such as pain, dyspnea, nausea, delirium, and depression. Admission to hospice care presents a valuable opportunity to reassess a patient's medication therapies and determine the treatments that are most likely to be beneficial or least likely to be harmful at the end of life.³

In 2007, an International Association of Hospice and Palliative Care (IAHPC) initiative resulted in a list of "essential medicines in palliative care" (Table 1). Essential medication classes included opioid and nonopioid analgesics, anxiolytics, antiemetics, corticosteroids,

© The Author(s) 2013

Corresponding Author: Leah Sera, PharmD, Department of Pharmacy Practice and Science, The University of Maryland School of Pharmacy, 9640 Gudelsky Dr Building I Room 304, Rockville, MD 20850, USA. lsera@rx.umaryland.edu.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

DEF-00191365

DEF-MDL-11776.00001

DEF-MDL-11776

laxatives, and antipsychotics.⁴ However, there is no analogous list of “least essential” medicines in palliative care to identify medications for chronic conditions that are not useful at the end of life. Studies in patients receiving palliative care have shown that the prescribing of medications for chronic comorbid conditions decreases at the end of life, while prescribing of medications used to manage symptoms increases.⁵⁻⁸ Although studies have focused on prescribing practices in populations with limited remaining life expectancy, it is unknown whether medications for chronic diseases are decreased relative to those for symptom management in patients receiving hospice care. Hypothetically, admission into hospice care (as opposed to the general provision of palliative care) represents a transition point when chronic medications least likely to be helpful could be significantly reduced. The purpose of this study was to determine the most commonly prescribed medications in hospice patients.

Methods

This was a retrospective cross-sectional study to characterize medications prescribed to hospice patients. Data for this study were provided by Seasons Hospice & Palliative Care, a national hospice organization with locations in 11 states at the time of the study (currently in 15 states). We used a clinical database of patient demographic and medication information gathered from patient electronic medical records. Patients were included in the study if they were admitted to hospice on or after January 1, 2010, and if they died in hospice on or before December 31, 2010. The institutional review board at the University of Maryland approved this study.

Medications prescribed at any time during a patient's hospice length of stay were included in this study. The electronic medical record contained information on drug name, dosage, formulation, and strength. Medications were further grouped by pharmacological class. Combination formulations (eg, oxycodone plus acetaminophen) were evaluated as 2 separate medications. Different dosage formulations were considered to be the same drug (eg, injectable and oral morphine). Indications for drug therapy were not explicitly recorded in the patient database.

We evaluated the 100 most frequently prescribed drugs. Based on the consensus of the authors and on usual practice patterns in palliative care, the top 100 drugs and the most common pharmacologic classes were classified as medications likely used for chronic conditions or likely used for symptom management. Consensus was reached on all classifications among the authors.

We used demographic information to describe the population. These variables included age, sex, race, and state of residence. We also evaluated admitting diagnosis, location of care, and length of stay. We determined whether the proportions of the 20 most frequently prescribed pharmacologic classes were different across the most common admitting diagnoses using chi-square tests. A value of $P < .05$ was considered to be statistically significant. We used Microsoft Excel for all analyses.

Results

We included 4252 patients in this study. The average age was 77.5 years (standard deviation 14.3 years). Patients were located in 11 different states, most commonly in Illinois, Maryland, and Michigan. More than half of the patients were women, and 64% of the patients were white. Patient demographics are listed in Table 2.

The most common primary admitting diagnosis was cancer (34.6% of the patients). Other common admitting diagnoses were dementia, lung disease, and cardiovascular disease. Lung disease included obstructive pulmonary disease and other chronic lung conditions but not lung cancer. Primary diagnoses are listed in Table 2. The most common admission settings were the patient's home (29.2%), skilled nursing facility (23.5%), inpatient hospital (20.6%), and an inpatient hospice unit (17.7%). These proportions remained virtually unchanged at death, with the exception of the inpatient hospice unit (which changed from 14.6% at admission to 19.6% at death). The average length of stay was 22.2 days (median 8 days, range 1-353 days).

Overall, 4252 patients were prescribed 83 629 medications or treatments. Treatments for which a generic medication name could not be determined (eg, "eye drops," "moisturizing cream," "enema"), enteral formulas, oxygen, and nondrug treatments (eg, wound care supplies) were not included in the study. A total of 80 441 medications were evaluated. The average number of medications prescribed per patient at any time during admission was 15.7 (range 1-100 medications), with 362 patients prescribed 30 or more medications. Patients were prescribed an average of 7.9 "as-needed" medications (range 1-42 medications) and an average of 8.3 regularly scheduled medications (range 1-69 medications).

The 100 most commonly prescribed drugs are listed in Table 3. The 6 most common drugs (acetaminophen, morphine, haloperidol, lorazepam, prochlorperazine, and atropine) were all included in the symptom management medication kits provided to most patients at admission. Other drugs prescribed for over 10% of the patients included albuterol, docusate, bisacodyl, scopolamine, senna, furosemide, aspirin, ipratropium, omeprazole, magnesium, oxycodone, fentanyl, metoprolol, and hydromorphone.

The most commonly prescribed medication classes were those most likely prescribed for symptom management. We compared the total proportion of chronic medications to symptom medications among the 3 most common admitting diagnoses—cancer, dementia, and lung disease. There were no significant differences in the proportions of these medications among these 3 top diagnoses. Opioid and nonopioid analgesics, anxiolytics, anticholinergics, and antipsychotics were prescribed to over 60% of the patients at some point during admission. Other frequently prescribed symptom medication classes were laxatives, bronchodilators, and antidepressants.

We compared the proportions of medication orders for the 20 most frequently prescribed pharmacologic classes among the 3 most frequent diagnoses (Table 4). We found that cancer patients were significantly more likely to be prescribed opioids, antipsychotic agents, corticosteroids, and antiemetic agents. Patients with dementia were significantly more likely to be prescribed nonopioid analgesics, vitamins or supplements, and antiplatelet agents. Last, patients with lung disease were significantly more likely to be prescribed bronchodilators.

Discussion

This study of patients admitted for hospice care with any diagnosis revealed that medications used to treat common end-of-life symptoms such as pain, anxiety, delirium, and nausea were most frequently prescribed. The prevalence of drug classes used for symptoms commonly seen at the end of life is not surprising. However, several commonly used drugs were likely being used to treat chronic conditions such as metoprolol for hypertension, simvastatin for hyperlipidemia, and aspirin for cardioprotection. Antiplatelet drugs and vitamins/supplements were prescribed in approximately 20% of the patients overall. The benefit of antiplatelet drugs for primary or secondary prevention of myocardial infarction or

stroke in patients in the last month must be balanced against the risk of hemorrhage. The utility of vitamins/supplements is questionable in any patient, especially those at the end of life; evidence of efficacy is often scarce, they increase pill burden and may be the cause of drug interactions.

In comparing the proportion of prescribed medications among patients with cancer, dementia, and lung disease, we found several significant associations between admitting diagnosis and pharmacologic class. Although opioid analgesics were widely prescribed across all 3 diagnoses, they were most frequently prescribed for patients with cancer. Patients with cancer were also more likely to be prescribed antiemetics, but since antineoplastic agents were prescribed in less than 1% of the patients, this use may be associated more with managing symptoms of advanced disease than the palliation of drug-induced nausea or vomiting. Antiplatelet and vitamins/supplements were more likely to be prescribed to patients with a primary diagnosis of dementia. This may be because the illness trajectory of a patient with terminal dementia is more prolonged than in patients with lung disease or cancer and may be associated with more chronic nutritional deficiencies. The decision of when to withdraw chronic medications may be less obvious in patients with dementia. However, there was no significant difference between the prescribing of antihypertensives, acid reducers, and thyroid agents between diagnoses. It is interesting that antipsychotics were more frequently prescribed in patients with cancer compared to patients with dementia and lung disease. This may be due to the frequency of nausea and vomiting associated with metastatic disease; antipsychotics such as haloperidol are frequently used at low doses to treat these symptoms.

Our findings that symptom medications were much more commonly used compared to medications for chronic conditions are similar to prior studies in palliative medicine populations. A study of Medicare beneficiaries found that the use of drugs that treat dyslipidemia and osteoporosis diminished at the end of life, while the use of drugs primarily associated with symptom management increased.⁵ A study of patients with cancer in Australia similarly found that a significant decrease in medications such as aspirin and proton pump inhibitors coincided with an increase in palliative medications such as morphine and dexamethasone and also suggested that medications prescribed for comorbid conditions may be continued longer than clinically indicated in patients with life-limiting illnesses.⁶ Another study found that the medications most frequently used by patients with cancer were those for symptom management, but over 20% of the patients were prescribed at least 1 “futile” medication described as one that no longer provides benefit and may cause harm.⁷ A 2012 study surveyed palliative care physicians to determine a list of potentially inappropriate medications at the end of life and found that hospital patients were more likely than hospice patients to receive these medications in the last days of life. The use of potentially inappropriate medications such as antihypertensives, anticoagulants, and antibiotics may be an indicator of quality in end-of-life care.⁸

Other studies have also found similar patterns of medication use for symptom management in patients with terminal illness. Medication use at the end of life has been most widely studied in patients with cancer. Patients with cancer admitted to 57 European inpatient palliative care units most frequently used analgesics, opioids, corticosteroids, and metoclopramide.⁹ A retrospective study of patients with cancer cared for by home hospice found that the most commonly used drugs were ranitidine, slow release morphine, methylprednisolone, and diclofenac.¹⁰ In the ambulatory setting, a cross-sectional study of 255 patients with cancer who visited outpatient palliative care clinics in Canada found that the most commonly prescribed medications were opioids, laxatives, corticosteroids, acetaminophen, and antiemetics.¹¹ Our study findings in hospice patients are similar to the

medications used for symptom management, particularly opioid and nonopioid analgesics are the most frequently prescribed medications.

Although the most frequently prescribed medications in this study reflect the essential drug classes recommended for symptom management in the IAHPC list, several of the drugs themselves are different. For instance, codeine does not appear among the 100 most frequently prescribed medications in this study, although it is considered an essential medication in the IAHPC list. However, several other opioid analgesics are frequently prescribed. Similarly, amitriptyline and diclofenac (from the IAHPC list) are not among the most frequently prescribed drugs in this study but other drugs within the associated pharmacologic classes are. These differences are likely due to local prescribing practices and the availability and cost of drugs in different parts of the world, particularly in developing countries. Medications that are preferentially prescribed in any organization depend on many factors, including efficacy, safety, availability, and cost. The process used to compile the IAHPC list of essential medicines in palliative care involved determination of common symptoms at the end of life and evaluation of medications used to treat those symptoms.¹

It is important to keep in mind that this study represents the experience of one national hospice organization. Other organizations may have different patient populations and formularies that would potentially alter the results of such a review. The patient population described in the 2011 National Hospice and Palliative Care Organization (NHPCO) report was similar in some ways to the population described in the current study. In 2010, 35.6% of the patients had an admitting diagnosis of cancer according to NHPCO, compared to 34.6% in this study. However, the proportion of patients receiving home care was much greater in the NHPCO report (95.7%) than in the current study (30%).¹²

Data regarding the actual use of medications were not available, which is particularly relevant when evaluating “as-needed” medications for pain or other symptom management. This study describes prescribing practices only. Finally, indications for drug use were not recorded in this database, so no conclusions can be drawn about the particular symptoms or chronic conditions being managed in each patient.

Understanding which drugs are most commonly prescribed for symptom management in patients with end-stage disease is important in anticipating and addressing drug-related problems. This information may be used to develop medication education materials for patients, caregivers, and health professionals in order to provide optimal pharmaceutical care for patients at the end of life.

Acknowledgments

Funding

The authors disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: Holly Holmes is supported by a grant from the National Institutes of Health.

References

1. Legler A, Bradley EH, Carlson M. The effect of comorbidity burden on health care utilization for patients with cancer using hospice. *Palliat Med*. 2011; 14(6):751–756.
2. Maddison AR, Fisher J, Johnston G. Preventive medication use among persons with limited life expectancy. *Progress in Palliative Care*. 2011; 19(1):15–21. [PubMed: 21731193]
3. Kemp LO, Narula P, McPherson ML, Zuckerman I. Medication reconciliation in hospice: a pilot study. *Am J Hosp Palliat Care*. 2009; 26(3):193–199. [PubMed: 19114603]

4. IAHPC List of Essential Medicines for Palliative Care [Internet]. International Association for Hospice and Palliative Care; Houston (TX): [Updated 2011 Sept 17]. Available on <http://www.hospicecare.com/resources/pdf-docs/iahpc-essential-meds-en.pdf>. [July 30, 2012]
5. Shaffer T, Simoni-Wastila L, Toler W, Stuart B, Doshi JA. Changing patterns in medication use with increasing probability of death for older Medicare beneficiaries. *J Am Geriatr Soc*. 2010; 58(8):1549–1555. [PubMed: 20670381]
6. Currow DC, Stevenson JP, Abernethy AP. Prescribing in palliative care as death approaches. *J Am Geriatr Soc*. 2007; 55(4):590–595. [PubMed: 17397439]
7. Reichelmann RP, Krzyzanowska MK, Zimmerman C. Futile medication use in terminally ill cancer patients. *Support Care Cancer*. 2009; 17(6):745–748. [PubMed: 19030900]
8. Raijmakers NJ, van Zuylen L, Furst CJ, et al. Variation in medication use in cancer patients at the end of life: a cross-sectional analysis[published online October 14, 2012]. *Support Care Cancer*. 2012
9. Nauck F, Ostgathe C, Klaschick E, et al. Drugs in palliative care: results from a representative survey in Germany. *Palliat Med*. 2004; 18(2):100–107. [PubMed: 15046406]
10. Mercadante S, Samot F, Samot A. Pattern of drug use by advanced cancer patients followed at home. *J Palliat Care*. 2001; 17(1):37–40. [PubMed: 11324183]
11. Reichelmann R, Krzyzanowska M, O'Carroll A, Zimmermann C. Symptom and medication profiles among cancer patients attending a palliative care clinic. *Support Care Cancer*. 2007; 15(12):1407–1412. [PubMed: 17429699]
12. NHPCO Facts and Figures: Hospice Care in America. National Hospice and Palliative Care Organization; Alexandria, VA: 2012.

Table 1List of Essential Medicines for Palliative Care (Adapted from IAHPC¹).

Medication	Indications
Acetaminophen	Fever, mild to moderate pain
Amitriptyline	Neuropathic pain
Bisacodyl	Constipation
Carbamazepine	Neuropathic pain
Citalopram	Depression
Codeine	Mild to moderate pain
Dexamethasone	Nausea, vomiting, pain
Diazepam	Anxiety
Diclofenac	Mild to moderate pain
Diphenhydramine	Nausea, vomiting
Transdermal fentanyl	Moderate to severe pain
Gabapentin	Neuropathic pain
Haloperidol	Nausea, vomiting, terminal agitation
Hyoscine butylbromide	Nausea, vomiting, terminal secretions
Ibuprofen	Mild to moderate pain
Levomepromazine	Terminal agitation
Loperamide	Diarrhea
Lorazepam	Anxiety
Megestrol acetate	Anorexia
Methadone	Moderate to severe pain
Metoclopramide	Nausea, vomiting
Midazolam	Anxiety
Mirtazapine	Depression
Morphine	Moderate to severe pain, dyspnea
Octreotide	Vomiting, diarrhea
Oxycodone	Moderate to severe pain
Tramadol	Mild to moderate pain
Trazodone	Insomnia
Zolpidem	Insomnia

Table 2

Characteristics of 4252 patients in hospice in 2010.

Age	Years
Mean, SD	77.5, 14.3
Median	81
Range	0-108
Sex	n (%)
Male	1840 (43.3)
Female	2412 (56.7)
Race	n (%)
Caucasian	2737 (64.4)
African American	865 (20.3)
Unknown	327 (9.3)
Hispanic	158 (3.7)
Asian	52 (1.2)
Other	38 (0.9)
Pacific Islander	3 (0.07)
Native American	2 (0.05)
Primary state of residence	n (%)
Illinois	1143 (26.9)
Maryland	1093 (25.7)
Michigan	633 (14.9)
California	304 (7.2)
Texas	259 (6.1)
Pennsylvania	193 (4.5)
Indiana	157 (3.7)
Wisconsin	155 (3.7)
Delaware	133 (3.1)
Massachusetts	126 (3.0)
Florida	55 (1.3)
Diagnosis	n (%)
Cancer	1472 (34.6)
Dementia	754 (17.7)
Lung disease	433 (10.2)
Heart disease	417 (9.8)
Stroke/coma	294 (6.9)
Debility	293 (6.9)
Other	289 (6.8)
Kidney disease	184 (4.3)
Liver disease	76 (1.8)
HIV	27 (0.6)
ALS	13 (0.3)

Abbreviations: ALS, amyotrophic lateral sclerosis; HIV, human immunodeficiency virus; SD, standard deviation.

Table 3

The 100 Most Frequently Prescribed Medications.

Drug		n (%) *	Drug		n (%) *
1	Acetaminophen	3646 (85.8)	51	Fluticasone	195 (4.6)
2	Lorazepam	3594 (84.5)	52	Nystatin	192 (4.5)
3	Morphine	3589 (84.4)	53	Nitroglycerin	191 (4.5)
4	Atropine	2656 (62.5)	54	Mirtazepine	186 (4.4)
5	Haloperidol	2085 (49.0)	55	Loperamide	180 (4.2)
6	Prochlorperazine	2009 (47.3)	56	Hyoscyamine	177 (4.2)
7	Albuterol	1242 (29.2)	57	Digoxin	175 (4.1)
8	Docusate	1221 (28.7)	58	Quetiapine	174 (4.1)
9	Bisacodyl	1100 (25.9)	59	Gabapentin	171 (4.0)
10	Scopolamine	1055 (24.8)	60	Simethicone	170 (4.0)
11	Senna	1008 (23.7)	61	Clopidogrel	161 (3.8)
12	Furosemide	776 (18.3)	62	Ciprofloxacin	160 (3.8)
13	Aspirin	661 (15.6)	63	Megestrol acetate	156 (3.7)
14	Ipratropium	655 (15.4)	64	Famotidine	153 (3.6)
15	Omeprazole	622 (14.6)	65	Memantine	149 (3.5)
16	Magnesium	620 (14.6)	66	Diphenhydramine	148 (3.5)
17	Oxycodone	615 (14.5)	67	Metoclopramide	148 (3.5)
18	Fentanyl	587 (13.8)	68	Tamsulosin	146 (3.4)
19	Metoprolol	561 (13.2)	69	Salmeterol	143 (3.4)
20	Hydromorphone	451 (10.6)	70	Ranitidine	140 (3.3)
21	Multivitamin	402 (9.5)	71	Aluminum	135 (3.2)
22	Potassium	384 (9.0)	72	Ibuprofen	133 (3.1)
23	Hydrocodone	380 (8.9)	73	Sodium phosphates	132 (3.1)
24	Dexamethasone	372 (8.8)	74	Zinc	132 (3.1)
25	Lactulose	367 (8.6)	75	Metronidazole	131 (3.1)
26	Ondansetron	319 (7.5)	76	Phenytoin	131 (3.1)
27	Scopolamine	319 (7.5)	77	Dextromethorphan	129 (3.0)
28	Lisinopril	312 (7.3)	78	Trazodone	127 (3.0)
29	Insulin	304 (7.2)	79	Valproic acid	127 (3.0)
30	Promethazine	279 (6.5)	80	Tiotropium	124 (2.9)
31	Amlodipine	275 (6.5)	81	Diltiazem	122 (2.9)
32	Levothyroxine	275 (6.5)	82	Warfarin	121 (2.9)
33	Calcium	258 (6.1)	83	Risperidone	120 (2.8)
34	Guaifenesin	255 (6.0)	84	Temazepam	117 (2.8)
35	Pantoprazole	250 (5.9)	85	Clonidine	113 (2.7)
36	Polyethylene glycol	240 (5.6)	86	Sulfamethoxazole	112 (2.6)
37	Alprazolam	239 (5.6)	87	Trimethoprim	112 (2.6)
38	Zolpidem	238 (5.6)	88	Escitalopram	111 (2.6)
39	Levothyroxine	227 (5.3)	89	Chlorpromazine	110 (2.6)

Drug			Drug		
		n (%) *			n (%) *
40	Prednisone	218 (5.1)	90	Levetiracetam	109 (2.6)
41	Carvedilol	217 (5.1)	91	Vitamin D	108 (2.5)
42	Iron	217 (5.1)	92	Diazepam	107 (2.5)
43	Lidocaine	210 (4.9)	93	Mirtazapine	106 (2.5)
44	Donepezil	207 (4.9)	94	Hydralazine	105 (2.5)
45	Methadone	205 (4.8)	95	Atenolol	102 (2.4)
46	Levofloxacin	203 (4.8)	96	Amoxicillin	100 (2.4)
47	Citalopram	202 (4.8)	97	Hydrochlorothiazide	97 (2.3)
48	Glycopyrrolate	201 (4.7)	98	Folic Acid	93 (2.2)
49	Sertraline	201 (4.7)	99	Tramadol	84 (2.0)
50	Simvastatin	201 (4.7)	100	Spironolactone	83 (2.0)

* The proportion of patients prescribed the drug during the study period.

Table 4

The 20 Most Frequently Prescribed Pharmacologic Classes in Patients With Cancer, Dementia, and Lung Disease.

Pharmacologic Class	Likely Use	Cancer, n (%) ^a	Dementia, n (%) ^a	Lung disease, n (%) ^a	P Value ^{**}
Opioid analgesic	Symptom	1469 (99.8)	704 (93.4)	391 (90.3)	.01 ^{**}
Anxiolytic	Symptom	1347 (91.5)	635 (84.2)	358 (85)	.24
Non opioid analgesic	Symptom	1253 (85.1)	681 (90.3)	329 (76)	.02 ^{**}
Anticholinergic	Symptom	1235 (83.9)	570 (75.6)	325 (75.1)	.25
Antipsychotic	Symptom	1057 (71.8)	487 (64.6)	217 (50.1)	.01 ^{**}
Laxative	Symptom	806 (54.8)	356 (47.2)	169 (39)	.08
Antihypertensive	Chronic	487 (33.1)	324 (43)	127 (29.3)	.11
Bronchodilator	Symptom	448 (30.4)	163 (21.6)	260 (60)	<.001 ^{**}
Acid reducer	Chronic	510 (34.6)	208 (27.6)	102 (23.6)	.22
Antiinfective	Chronic	419 (28.5)	229 (30.4)	100 (23.1)	.49
Antidepressant	Symptom	301 (20.4)	232 (30.8)	76 (17.6)	.06
Vitamin/supplement	Chronic	267 (18.1)	235 (31.2)	70 (16.2)	.02 ^{**}
Diuretic	Chronic	292 (19.8)	124 (16.4)	101 (23.3)	.47
Corticosteroid	Symptom	444 (30.2)	64 (8.5)	122 (28.2)	<.001 ^{**}
Antiplatelet	Chronic	159 (10.8)	194 (25.7)	70 (16.2)	.02 ^{**}
Stool softener	Symptom	270 (18.3)	124 (16.4)	36 (8.3)	.10
Antiepileptic drug	Chronic	210 (14.3)	129 (17.1)	36 (8.3)	.17
Antihistamine	Chronic	221 (15)	73 (9.7)	46 (10.6)	.46
Thyroid agent	Chronic	150 (10.2)	126 (16.7)	38 (8.8)	.18
Antiemetic	Symptom	275 (18.7)	28 (3.7)	31 (7.2)	.001 ^{**}

^aThe proportion of patients prescribed drugs within the pharmacological class during the study period.

^{**} Denotes a P-value < 0.05.